REMARKS/ARGUMENTS

Claims 1-32 are pending in the present application. In the Office Action of October 9, 2007, claims 1, 2, 13-16, 21-25, 29, and 32 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Fuchs '475 (U.S. Patent 6,418,475) combined with Irons '032 (6,427,032). Furthermore, claims 3-12, 17-19, 26-28, and 30-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Fuchs '475 in view of Jamroga '742 (6,574,742). Finally, claim 20 was rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite.

Corrections

Claim 1 has been amended to better describe the present invention. Claim 15 has been amended to correct a typographical error. Additionally, claim 20 has been amended to correct an improper reference of dependency upon itself and to further place it in condition for allowance in light of 35 U.S.C. § 112.

Claim Rejections

The present invention relates to the field of systems for the storage and management of medical images for a healthcare enterprise. In general, the above-identified application is directed to intelligently storing and managing medical images from a plurality medical imaging devices based on a comprehensive set of stored rules. The conventional systems employed for storing and managing medical images are inadequate and make it difficult for images stored on different picture archiving and communicating (PAC) systems to be shared efficiently. The present invention overcomes the shortcomings of prior methods by employing a rules processor to efficiently manage the storage of medical images by intelligently coordinating the transfer of the images to and from storage devices based on a set of stored rules that operate on metadata extracted from both the images and the image producing devices. By using a rules processor many parameters can be defined which enable images to be handled in a very sophisticated manner. Such parameters may be, for example, the imaging modality, the location of the imaging system (hospital and department), etc. By processing the metadata that

accompanies received images using the rules processor these parameters are examined and the images are stored in a storage device according to a satisfied rule. In addition, it is easy to edit, or change, the rules to meet the changing business needs, advances in technology, or storage capacity availability. This achieves a more efficient means to store and manage medical images over a large healthcare network, collectively referred to as a healthcare enterprise, including multiple healthcare institutions each having multiple departments with their own PAC systems.

Fuchs '475 is directed to a medical imaging system that has a number of memory systems and a control system that controls the storage of the image data acquired by the medical imaging system in the plurality of memory systems. The only control in determining which memory systems receive which medical images is based on distributing the loads equally across the memory systems. As a result, peak loads on any one particular memory system are avoided. Additionally, the memory systems are capable of rerouting medical images amongst themselves so as to avoid any backlogging associated with a short or long term duration of outage of a given memory system. This system for storing and managing medical images is limited to a local network associated with a particular medical imaging system. Furthermore, the control system is limited in routing medical images to different memory systems based solely on how much load a given memory system is experiencing or to a workstation console, and is not otherwise concerned with where a medical image is stored. The concept of a rules processor cannot be found in this reference.

Irons '032 is directed at a system and method for digital filing of information. The method of digital filing refers to converting paper-based information into an electronic format through any number of commonly available office resources (e.g. digital scanning). In the preferred embodiment of Irons '032, the digital filing system employs the use of uniquely produced printed labels affixed to the leading page of a document, which is subsequently scanned and digitally filed. Furthermore, the main goal of Irons '032 is to give the control of scanning and indexing paper-based

documents to the owner of the document in a larger workplace environment. As a result, Irons '032 is ultimately directed to the tracking and efficient management of uniquely labeled electronic documents. The concept of a rules processor cannot be found in this reference.

Jamroga '742 is directed at a communication system for managing the storage of medical images across a healthcare enterprise. However, Jamroga '742 does not teach or suggest a rules processor for processing metadata in accordance with a set of stored rules in order to determine how medical images are to be managed and stored across the healthcare enterprise. Instead, images are always transferred to both short- and long-term storage regardless of any information related to the images or where they were produced (Jamroga '742; col. 8, lines 56-60; col. 10, lines 29-32; col. 12, lines 52-56; col. 14, lines 35-38).

Independent claim 1 of the claimed invention calls for:

> 1. An image management system connected to receive messages from a plurality of image producing devices coupled to a network, the image management system comprising:
> a plurality of storage devices, each storage device having cost and operating characteristics which differ from the other storage devices;
> means for receiving over the network from image producing devices messages which contain image data and metadata, said metadata containing information related to the image data and the image producing device;
> a buffer for storing image data in a received message coupled to the means for receiving;
> processor means coupled to the means for receiving to process metadata in a received message to determine in accordance with stored rules which one of the plurality of storage devices should store the associated image data; and

archiving means responsive to the determination

made by the processor means to transfer the image data

in the buffer to said one storage device.

The Office Action cited <u>Fuchs '475</u> as teaching an image management system connected to receive messages from a ***plurality*** of image producing devices, the image management system comprising means for receiving, from image producing devices over the network, messages that contain image data. <u>Fuchs '475</u> does not teach or suggest an ***image management system*** connected to receive messages from a ***plurality*** of image producing devices. Instead, <u>Fuchs '475</u> teaches a ***medical imaging system*** itself, the medical imaging system comprising a plurality of memory systems for storing medical image data (<u>Fuchs '475</u>; col.1, lines 7-11; col. 2, lines 56-57; col. 3, lines 27-34). Additionally there is no teaching or suggestion in <u>Fuchs '475</u> directed to means for receiving messages which contain metadata, nor does <u>Fuchs '475</u> teach or suggest processor means directed to processing metadata in accordance with stored rules.

To address these points, the Office Action cited <u>Irons '032</u> as teaching a method directed to archiving a document image using a designated file identifier. However, there is no teaching or suggestion in <u>Irons '032</u> directed to processing means for processing metadata in accordance with stored rules. Instead, <u>Irons '032</u> teaches a method for associating a document image with a unique identifier code in the form of a pre-printed label affixed to the original paper-based document prior to producing the document image by scanning the paper-based document (<u>Irons '032;</u> abstract; col. 4, lines 30-40). <u>Irons '032</u> does not disclose metadata containing information related to a medical image, nor does <u>Irons '032</u> disclose metadata containing information related to an image producing device. Additionally, there is no teaching or suggestion in <u>Irons '032</u> directed to a rules processor that employs a set of stored rules to evaluate metadata in order to coordinate the transfer and storage of image datasets in accordance with those rules which are satisfied. As a result, <u>Irons '032</u> has no material relevance to the claimed invention. One having ordinary skill in the art would not have found it obvious at the time of the invention to

combine the medical imaging system comprising a plurality of memory systems of Fuchs '475 with the digital filing system of Irons '032 to produce the claimed invention. In fact, the combination of these two references does not produce the claimed invention since there is no teaching or suggestion in *either* reference directed to a processing means for processing metadata in accordance with a *stored rule* to determine where an image should be stored.

The remarks made above regarding independent claim 1 of the claimed invention hold true as well for independent claim 16 of the claimed invention which calls for "processor means being operable to examine metadata in received messages and parameters in a set of stored rules to determine in which of said plurality of storage devices the associated image data should be stored." Neither Fuchs '475 nor Irons '032 teach or suggest a processing means for processing metadata in accordance with a set of stored rules.

Independent claim 24 calls for "evaluating a stored rule by examining the metadata associated with each image received by the image management system; storing the received image in a manner indicated by a rule which is evaluated as satisfied; and storing the associated metadata in a database." With respect to this claim, neither Fuchs '475 nor Irons '032 teach or suggest examining metadata associated with an image and storing the image in a manner indicated by a satisfied rule. As a result, one having ordinary skill in the art would not have found it obvious at the time of the invention to combine Fuchs '475 with Irons '032 to produce the claimed invention. Furthermore, since there is no teaching or suggestion in *either* reference directed to storing an image in a manner indicated by examining metadata associated with the image in order to determine if a stored rule is satisfied, the combination of these two references does not disclose or suggest the claimed invention.

For at least the foregoing reasons, the rejected independent claims (1, 16, and 24) recite subject matter that is patentable over the prior art and their allowance is respectfully requested.

Claims 2-15 are dependent on claim 1, claims 17-23 are dependent on claim 16, and claims 25-32 are dependent on claim 24 and are all patentable for the reasons discussed above.

The Commissioner is authorized to charge any fees under 37 C.F.R. § 1.17 that may be due on this application to Deposit Account 17-0055. The Commissioner is also authorized to treat this amendment and any future reply in this matter requiring a petition for an extension of time as incorporating a petition for extension of time for the appropriate length of time as provided by 37 C.F.R. § 136(a)(3).

Respectfully submitted,

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